INSTALLATION/OPERATION

EH8100 Series Pressurized Camera Enclosure

C1407M-H (1/07)

Contents

Important Safety Instructions 3

Description 4
- Models 4

Installation 4
- Mounting 4
- Camera and Lens Installation 4
- Mating Connector Assembly 6
- Recharging The Enclosure 7
- Power Connection 7

Operation 7

Maintenance 7

Servicing 8
- Disassembly 8
- Recharging and Reassembly 8

Specifications 9

List of Illustrations

1 EH8100 Series Enclosure - Rear View 5
2 EH8100 Series Enclosure - Wiring Diagram 5
3 Dimensions 10

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
6. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
7. Use only installation methods and materials capable of supporting four times the maximum specified load.
8. Only use replacement parts recommended by Pelco.
9. After replacement/repair of this unit's electrical components, conduct a resistance measurement between the line and exposed parts to verify the exposed parts have not been connected to the line circuitry.

The product and/or manual may bear the following marks:

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Description

Enclosures in the EH8100 Series are sealed and pressurized. They will accept CCD cameras with fixed focal length or motorized zoom lenses. The enclosures are wired for lenses with preset capabilities.

MODELS

EH8104 4-inch diameter, 17-inch length, two 20-watt heaters

EH8106 6-inch diameter, 20-inch length, two 40-watt heaters

Installation

MOUNTING

The enclosure can be mounted to a wall mount, ceiling/pedestal mount, or pan/tilt mounted to a wall or ceiling. For proper installation, refer to the instructions supplied with the mount. The enclosure should be attached to the mount or pan/tilt by a minimum of two 1/4-20 fasteners (not supplied).

CAMERA AND LENS INSTALLATION

To install the camera and lens, perform the following steps:

1. Remove the rear plate of the enclosure. Refer to Figure 1 and do the following:
    a. Remove the spiral retaining ring from the back of the enclosure. Use a screwdriver to pry the end of the spiral retaining ring from the retaining ring groove.
    b. Pull on the T-handle to remove the rear plate from the housing.
2. Slide the sled out of the enclosure.
3. Remove the desiccant bag from the camera sled. Do not discard the bag.
4. Mount the camera and lens onto the sled:
    a. Extend the lens to the maximum length before positioning the camera and lens.
    b. Position the camera and lens so that they do not extend beyond the track.
    c. Fasten the camera and lens to the sled. Fastener is not supplied.
5. Connect wiring for camera power, lens functions, and video. Refer to Figure 2.
6. Unwrap and install the desiccant bag inside the enclosure.
7. Reinstall the camera sled by sliding it back into the enclosure body. Secure with the spiral retaining ring.
8. Pressurize the inside of the enclosure and assemble the mating connector. Refer to the sections *Recharging and Reassembly* and *Mating Connector Assembly*.

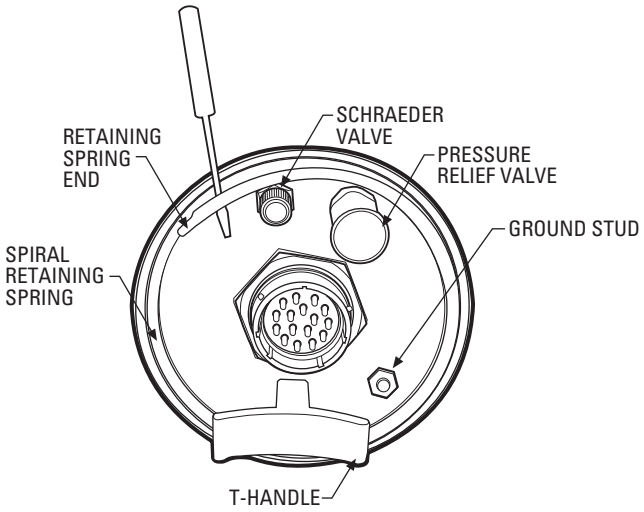


Figure 1. EH8100 Series Enclosure - Rear View

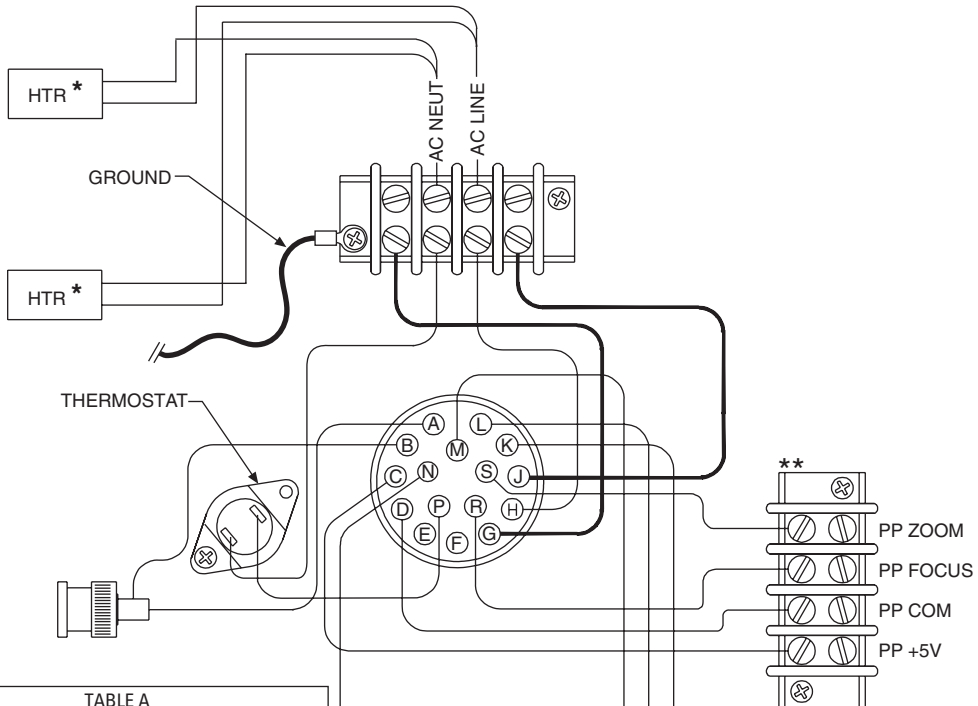


TABLE A		
PIN NO.	FUNCTION	COLOR
A	VIDEO	COAX CORE
B	VIDEO	COAX SHIELD
C	PP +5V	BLK/WHT
D	PP COM	RED/WHT
E	CAMERA AC LINE	BLU
F	CAMERA AC NEUT	VIO
G	PS SWITCH	GRN/WHT
H	AC LINE	BLK
J	PS SWITCH	WHT/GRN
K	IRIS	BRN
L	FOCUS	RED
M	ZOOM	ORG
N	LENS	COM YEL
P	AC NEUTRAL	WHT
R	PP FOCUS	YEL/WHT
S	PP ZOOM	GRY/WHT

*** NOTES:**
Consult the manual section dealing with model number listings for the wattage and number of heaters for the particular model that you are using.

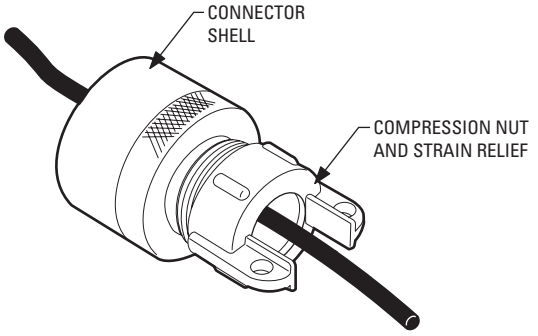
** Terminal block only on the EH8106. The EH8104 does not have a terminal block for lens presets.

Figure 2. EH8100 Series Enclosure - Wiring Diagram

MATING CONNECTOR ASSEMBLY

To assemble the 16-pin mating connector, perform the following steps:

1. Discard the white plastic sleeve that is included with the connector assembly. Thread the cable through the compression nut/strain relief and connector shell.

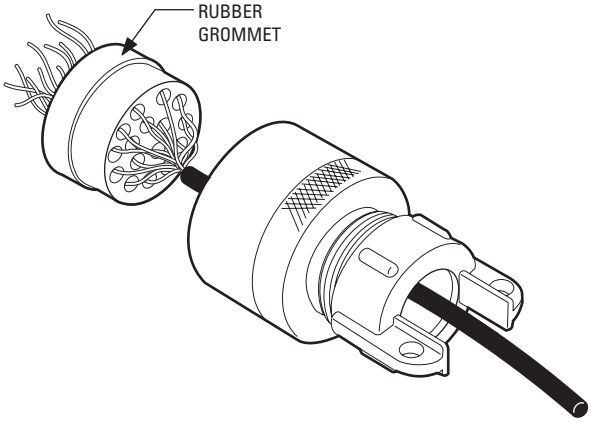


2. Prepare the cabling by doing the following:

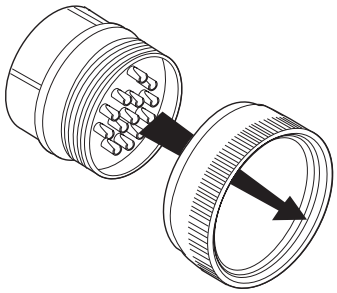
Control Cable

a. Strip the outer jacket back 2 inches (5 cm).

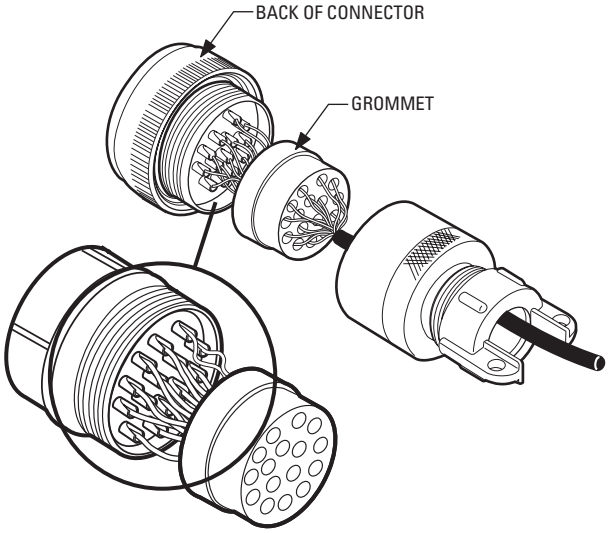
b. Strip the individual conductors back 1/4-inch (6 mm) and thread them into the appropriate holes through the rubber grommet. Refer to Figure 2.



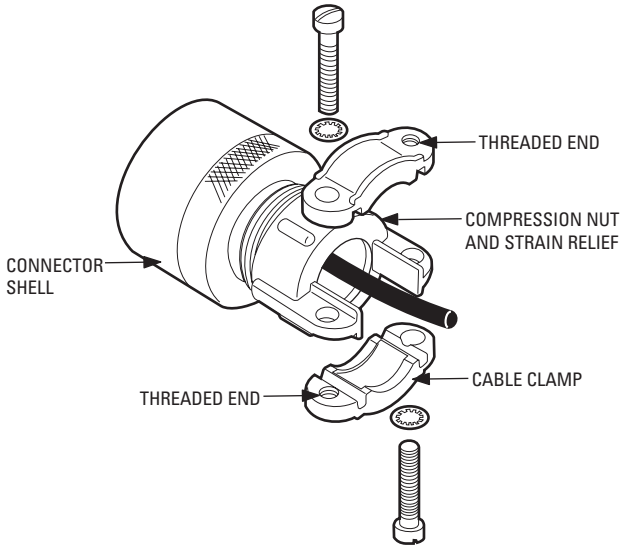
3. Assemble the back of the connector.



4. Solder the individual conductors to the appropriate pins in the back of the connector (refer to Figure 2). Push the rubber grommet into the back of the connector.



5. Screw the connector shell to the back of the connector and tighten. Tighten the compression nut/strain relief as far as possible to compress the sealing ring inside the shell. Attach the cable clamps to the compression nut/ strain relief.



RECHARGING THE ENCLOSURE

You may use your own charging equipment or Pelco's EH8000RKIT to recharge the enclosure. If you are using your own equipment, adjust the regulator for an output pressure of 12 psi (83 kPa). If you are using the EH8000RKIT, it uses a regulator with a fixed, nonadjustable output pressure of 12 psi (83 kPa). The gauge reads the tank pressure only.

Refer to Figure 1 and do the following to pressurize the inside of the enclosure with nitrogen:

1. Open the tank valve of the charging kit.
2. Remove the cap from the enclosure's Schraeder valve and then attach the air chuck from the charging equipment to the valve.
3. To reduce the purge time necessary to remove air from the enclosure, position the enclosure so that the window is pointing up.
4. Remove the plastic cap on the pressure relief valve on the rear of the enclosure. Use a small screwdriver and hold the valve open. Allow the nitrogen to flow through the enclosure until the humidity indicator registers the lowest humidity level, changing color from pink to blue. (The humidity indicator can be viewed through the front window of the enclosure looking at the inside top of the enclosure.) Once the humidity indicator registers the lowest level, remove the screwdriver and allow nitrogen to continue to flow into the enclosure until you no longer hear the flow of nitrogen from the tank to the enclosure.
5. Remove the charging equipment air chuck from the Schraeder valve. Replace the Schraeder valve and pressure relief valve caps.

POWER CONNECTION

1. Connect ground wire to the ground stud on the back of the enclosure.
2. Connect the mating connector to the rear of the enclosure.

Operation

The heaters are thermostatically controlled to come on at 40°F (4°C) and go off at 60°F (16°C).

Maintenance

At a minimum, the enclosure should be recharged once a year. Also, recharge the enclosure after opening for servicing. See the *Servicing* section for instructions on how to disassemble, reassemble, and charge the enclosure.

ACCESSORIES

EH8000RKIT	Dry nitrogen recharging kit for EH8100 Series. Kit includes pressure regulator and nitrogen.
PSKIT8100	Pressure sensor kit with contact closure that can be wired to trigger an alarm if enclosure's internal pressure falls below 5 psi.

Servicing

DISASSEMBLY

1. Disconnect the power from the enclosure.
2. Remove the mating connector from the rear of the enclosure by turning the outer ring counterclockwise until a click is felt; then pull the mating portion of the connector off. You may elect to remove the enclosure from its mount, which will make the disassembly process much easier.
3. Remove the center cap from the Schraeder valve. Refer to Figure 1.
4. Relieve internal enclosure pressure by depressing and holding down the center stem of the Schraeder valve.

⚠ **CAUTION:** Pressure must be released prior to opening the enclosure or personal injury may result.

5. Remove the rear plate of the enclosure. Refer to Figure 1 and do the following:
   a. Remove the spiral retaining ring from the back of the enclosure. Use a screwdriver to pry the end of the spiral retaining ring from the retaining ring groove.
   b. Pull on the T-handle to remove the rear plate from the housing.

RECHARGING AND REASSEMBLY

Whenever the enclosure is disassembled for servicing, it should be recharged after reassembly and prior to installation. Recharging requires the use of a Pelco EH8000RKIT recharge kit (or equivalent) and applicable O-ring kit.

To prepare the enclosure for recharging, follow the steps below.

1. Once the enclosure has been disassembled, remove the O-ring from the rear plate and install a new O-ring in the O-ring groove in the rear plate.
2. When the new O-ring has been installed in the rear plate, smear a liberal amount of the O-ring lubricant provided with the kit on the exterior surface of the O-ring and rear plate. Replace the desiccant bag in the enclosure with a new one provided with the kit.
3. Slide the camera sled back into the body making sure the front lip of the sled is under the retaining bracket of the enclosure. When fully installed, the rear plate will fit firmly into the rear opening of the housing and the retaining groove will be fully visible.
4. Reinstall the spiral retaining ring in the retaining groove in the rear of the enclosure.
5. Recharge the enclosure. Refer to the section *Recharging The Enclosure* for instructions.

Replacement O-rings

Part #	Description
ZH69-0205-2404	O-ring for EH8104 enclosure
EH800610006	O-ring for EH8106 enclosure

Specifications

Electrical

Input Voltage	120 VAC (230 VAC optional) for heaters	
Power Requirements	40 watts (EH8104) 80 watts (EH8106)	
Connector	16-pin receptacle with jam nut	
Mating Connector	MS-type connector (supplied)	
Maximum Cable Distances		
120 VAC	**EH8104**	**EH8106**
16 AWG (1.5 mm^2)	4,477 ft (1365 m)	2,238 ft (682 m)
18 AWG (1.0 mm^2)	2,821 ft (860 m)	1,410 ft (430 m)
20 AWG (0.5 mm^2)	1,773 ft (540 m)	(1,252) 1,040 (316)
230 VAC		
16 AWG (1.5 mm^2)	16,449 ft (5,014 m)	8,224 ft (2,507 m)
18 AWG (1.0 mm^2)	10,364 ft (3,159 m)	5,182 ft (1,579 m)
20 AWG (0.5 mm^2)	6,514 ft (1,985 m)	3,257 ft (993 m)
Heater		
EH8104	Two, 20 watts each, 120 VAC	
EH8106	Two, 40 watts each, 120 VAC	
	Heaters are thermostatically controlled to come on at 40°F (4°C) and go off at 60°F (16°C)	

General

Construction	Aluminum 6061 T6
Finish	
Outside	Gray polyester powder coat
Inside	Black anodized
Dimensions	See Figure 3
Front Window	
EH8104	4-inch diameter tempered glass, 0.225-inch thick
EH8106	6-inch diameter tempered glass, 0.225-inch thick
Camera Mounting	Multiple mounting holes on camera sled allow for linear adjustment
Maximum Camera/Lens Size	
EH8104	3-inch diameter x 14-inch length (8 x 35 cm) or 14 (L) x 2.5 (W) x 2.5 (H) inches (35 x 6 x 6 cm)
EH8106	5-inch diameter x 18-inch length (13 x 46 cm) or 18 (L) x 4.0 (W) x 4.0 (H) inches (46 x 10 x 10 cm)

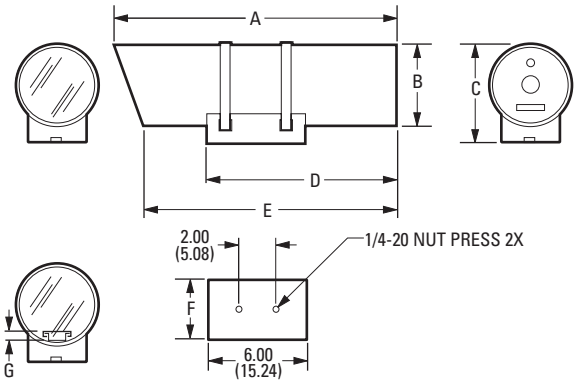
Enclosure

Mounting	Adjustable cradle secured with type 316 stainless steel bands
Purge Fitting	Standard Schraeder valve to allow enclosure to be filled with dry nitrogen
Purge Fitting	Prevents over-pressurization of enclosure
Weight	
EH8104	8 lb (4 kg)
EH8106	15 lb (7 kg)

Environmental

Ambient Operating Temperature	-40° to 122°F (-40° to 50°C) (with heater)
Vibration	5 to 60 Hz with 0.082-inch total travel (15 g's at 60 Hz). From 60 to 1,000 Hz, 5 g's rms with random vibration
Altitude	Sea level to equivalent of 10,000 feet (3,048 m)
Acoustic Noise	Operates in 150 dB acoustic noise environments
Humidity	Up to 100% relative humidity. Equipped with standard Schraeder and pressure relief valves to provide positive internal pressure with dry nitrogen.
Ratings	Meets NEMA Type 6, IP 67 standards

(Design and product specifications subject to change without notice.)



	A	B	C	D	E	F	G
EH8104	18.00 (45.72)	4.50 (11.43)	5.50 (13.97)	12.50 (31.57)	17.00 (43.18)	3.00 (7.62)	0.92 (2.33)
EH8106	22.00 (55.88)	6.50 (16.51)	7.00 (17.78)	13.00 (33.02)	20.00 (50.80)	7.00 (17.78)	0.88 (2.23)

NOTE: VALUES IN PARENTHESES ARE CENTIMETERS;
ALL OTHERS ARE INCHES.

Figure 3. Dimensions

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FR/FT/FS Series fiber optic products and TW3000 Series unshielded twisted pair transmission products.
- Three years on Spectra® IV products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra III™, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C1407M	6/94	Original version.
C1407M-A	5/96	Revised to incorporate which deals with the addition of the pressure sensor option kit and associated wiring update and ECO 96-131 and 96-147 which deal with changes to heater kit configurations.
C1407M-B	5/96	Manual revised to new format. Figure 6 revised to remove pressure sensor switch. Refer to manual C1445M for switching wiring. Figure 8 and Section 9.0 revised to include grounding lug.
	8/97	Manual revised and renumbered to new format. Section 2.2 added for CE and UL Compliance. Revised Table B, EH8100 Series Enclosure Mechanical Parts List, to add EH810626SS Cradle Weld Assembly per ECO 97-047.
	6/98	Revised Section 3.4 and Figure 5.
	11/98	Editing changes. Revised certifications, Figure 8, Tables A and B, and specifications. Repaginated manual.
C1407M-C	3/00	Revised connector assembly instructions. Created separate manual for EH8100 Series Sun Shroud (C422MC). Moved exploded assembly diagram and parts lists to new maintenance/service manual (C1407SM). Updated manual to new format.
C1407M-D	7/00	Revised manual to include grounding stud on rear plate.
C1407M-E	1/04	Changed charging pressure from 5 psi to 8 psi.
	8/04	Removed agency logos and updated warranty and return information.
C1407M-F	11/04	Factory preset for regulator changed to 12 psi per ECO 04-9807. Removed references to EH8108 and updated layout.
C1407M-G	12/04	Revised instructions and artwork for mating connector assembly per ECO 04-10254.
C1407M-H	1/07	Updated for WEEE and RoHS compliance. Revised specifications section for maximum cable distances and updated Accessories listing and O-ring part numbers.

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